

## CLAIMS

What is claimed is:

- 1 1. A method of providing operating system drivers during an operating system installation on  
2 a computer system, the method comprising:
  - 3       storing the operating system drivers on a read only memory (ROM) within the computer  
4 system; and
  - 5       copying at least one of the operating system drivers from a virtual disk drive of the  
6 computer system during the operating system installation.
2. The method of providing operating system drivers as defined in claim 1 wherein copying at  
least one of the operating system drivers from a virtual disk drive further comprises:
  - 3       invoking basic input output system (BIOS) routines; and
  - 4       showing the operating system drivers residing on the ROM as files stored on the virtual  
5 disk drive by the BIOS routines.
- 6.1 3. The method of providing operating system drivers as defined in claim 2 further comprising:
  - 6.2       requesting disk services to the virtual disk drive by;
  - 6.3       invoking interrupt 13h BIOS routines directed to the virtual disk drive; and
  - 6.4       returning a file name for at least one of the operating system drivers by the interrupt 13h  
6.5 BIOS routines as if the operating system drivers resided on the virtual disk drive.

1   4.     The method of providing operating system drivers as defined in claim 1 wherein storing the  
2   operating system drivers on the ROM within the computer system further comprises storing the  
3   operating system drivers on the ROM along with a basic input output system (BIOS).

1   5.     The method of providing operating system drivers as defined in claim 1 wherein storing  
2   operating system drivers on the ROM within the computer further comprises:

3                 storing on the ROM a first set of operating system drivers operable with a first operating  
4   system; and

5                 storing on the ROM a second set of operating system drivers operable with a second  
6   operating system.

6.     The method of providing operating system drivers as defined in claim 5 further comprising  
having only operating system drivers operable with the operating system to be installed available  
for copying from the virtual disk drive.

1   7.     The method of providing operating system drivers as defined in claim 6 wherein having  
2   only the operating system drivers operable with the operating system to be installed available for  
3   copying from the virtual disk drive further comprises showing only the operating system drivers  
4   operable with the operating system to be installed as files stored on the virtual disk drive by the  
5   BIOS routines.

1   8.     The method of providing operating system drivers as defined in claim 7 wherein showing  
2   the operating system drivers as files stored on the virtual disk drive further comprises:

3        requesting disk services to a disk drive name that does not physically reside in the  
4    computer system by;

5        invoking interrupt 13h BIOS routines directed to the disk drive name that does not  
6    physically reside in the computer system;

7        returning a file name for operable operating system drivers by the interrupt 13h BIOS  
8    services as if the operating system drivers resided on the disk drive name that does not physically  
9    reside in the computer system.

1    9.      A computer system comprising:

2            a CPU;

3            a main memory array;

4            a first bus bridge coupling the CPU and main memory array;

5            a primary expansion bus;

6            a secondary expansion bus;

7            a second bus bridge coupling the primary and secondary expansion bus;

8            a read only memory (ROM) array coupled to the secondary expansion bus, wherein the  
9    ROM array stores operating system drivers; and

10          wherein the computer system is adapted to make the operating system drivers appear to  
11    reside on a virtual floppy drive for copying during loading of an operating system for the computer  
12    system.

1    10.     The computer system as defined in claim 9 wherein the ROM array also stores basic input  
2    output system (BIOS) firmware.

1       11.     The computer system as defined in claim 10 wherein the BIOS firmware, when invoked for  
2     disk services, is adapted to make the operating system drivers appear to reside on the virtual floppy  
3     drive.

1       12.     The computer system as defined in claim 9 further comprising:  
2              said ROM array stores a first set of operating system drivers for a first operating system;  
3              said ROM array stores a second set of operating system drivers for a second operating  
4     system; and

5              wherein the computer system is adapted to make only one of the first and second set of  
6     operating system drivers available for copying from the virtual floppy drive during loading of the  
7     operating system for the computer system.

1       13.     A method of loading an operating system on a computer, the method comprising:  
2              storing operating system drivers on a read only memory (ROM);  
3              informing a basic input output system (BIOS) of an operating system type to be installed;  
4              making available during the loading of the operating system the operating system drivers  
5     stored on the ROM appropriate for the operating system type to be installed;  
6              loading the operating system; and  
7              copying at the appropriate time during the loading of the operating system at least one of the  
8     operating system drivers from a virtual floppy drive.

1    14.    The method of loading an operating system on a computer as defined in claim 13 wherein  
2    storing operating system drivers on the ROM further comprises:  
3         storing a first set of operating system drivers operable with a first operating system; and  
4         storing a second set of operating system drivers operable with a second operating system.

1    15.    The method of loading an operating system on a computer as defined in claim 13 wherein  
2    informing the BIOS of the operating system type to be installed further comprises:  
3         selecting the operating system type to be installed on a BIOS setup screen; and  
4         setting an environment variable in a non-volatile random access memory (RAM) based on  
5    the selecting step that indicates the operating system type to be installed.

1    16.    The method of loading an operating system on a computer as defined in claim 15 wherein  
2    making available the operating system drivers stored on the ROM further comprises:  
3         using BIOS programs to access the operating system drivers stored on the ROM;  
4         referring, by the BIOS programs, to the environment variable in non-volatile RAM; and  
5         making one of the first and second set of operating system drivers available on the virtual  
6    floppy drive by the BIOS program based on a state of the environment variable in non-volatile  
7    RAM.

1    17.    A read only memory (ROM) device comprising:  
2         a basic input output system (BIOS) program;  
3         a set of hardware drivers; and

4           wherein the BIOS program is adapted to, when executed by a microprocessor, make the set  
5       of hardware drivers available for copying during installation of an operating system by providing  
6       the hardware drivers on a virtual disk drive.

1       18.      The ROM device as defined in claim 17 wherein the set of hardware drivers further  
2       comprises:

3           a first set of hardware drivers for use with a first type operating system;  
4           a second set of hardware drivers for use with a second type operating system; and  
5           wherein the BIOS program is adapted to make only the first set of hardware drivers  
6       available during installation of the first type operating system, and wherein the BIOS program is  
7       adapted to make only the second set of hardware drivers available during installation of the second  
8       type operating system.

1       19.      A method of providing operating system drivers during an operating system installation on  
2       a computer system, the method comprising:

3           storing a first set of operating system drivers operable with a first operating system in a  
4       read only memory (ROM) of the computer system;

5           storing a second set of operating system drivers operable with a second operating system in  
6       the ROM; and

7           copying at least one of the operating system drivers from a virtual disk drive of the  
8       computer system during the operating system installation.

1    20.    The method of providing operating system drivers as defined in claim 19 further  
2    comprising:

3                 selecting on a basic input output system (BIOS) setup screen one of the first and second  
4    sets of operating systems, a selected system, to be installed on the computer system; and  
5                 having only operating system drivers operable with selected system, selected drivers,  
6    available for copying from the virtual drive.

1    21.    The method of providing operating system drivers as defined in claim 20 further  
2    comprising:

3                 requesting disk services to a disk drive name that does not physically reside in the  
4    computer system by;

5                 invoking interrupt 13h BIOS services directed to the disk drive name that does not  
6    physically reside in the computer system; and

7                 returning file names for the selected drivers by the interrupt 13h BIOS services as if the  
8    selected drivers resided on the disk drive name that does not physically reside in the computer  
9    system.

1    22.    A computer system comprising:

2                 a CPU;

3                 a main memory array;

4                 a first bus bridge coupling the CPU and main memory array;

5                 a primary expansion bus;

6                 a secondary expansion bus;

7           a second bus bridge coupling the primary and secondary expansion bus;  
8           a read only memory (ROM) coupled to the secondary expansion bus, wherein the ROM  
9        stores basic input output system (BIOS) programs; and  
10          wherein the BIOS programs are adapted to show a virtual floppy drive whose contents  
11        reside in the virtual address space of the computer system.

1       23.   The computer system as defined in claim 22 wherein the BIOS programs of the ROM are  
2        further adapted to show the virtual floppy drive whose contents reside in the random access  
3        memory (RAM) area of the virtual address space.

1       24.   The computer system as defined in claim 22 wherein the BIOS programs of the ROM are  
2        further adapted to show the virtual floppy drive whose contents reside in the ROM area of the  
3        virtual address space.

1       25.   The computer system as defined in claim 24 further comprising:  
2            said ROM contains operating system drivers necessary to interface an operating system of  
3        the computer system with hardware of the computer system; and  
4            wherein the BIOS programs are adapted to show the operating system drivers on the ROM  
5        as the contents of the virtual floppy drive.

1       26.   The computer system as defined in claim 25 further comprising:  
2            said ROM contains a first set of operating system drivers for use with a first operating  
3        system;

4        said ROM also contains a second set of operating system drivers for use with a second  
5        operating system; and

6                wherein the BIOS programs are adapted to show as contents of the virtual floppy drive the  
7        first set of operating system drivers if the first operating system is to be installed on the computer  
8        system, and wherein the BIOS programs are further adapted to show as contents of the virtual  
9        floppy drive the second set of operating system drivers if the second operating system is to be  
10      installed on the computer system.

1        27.      A method of providing operating system drivers during an operating system installation on  
2        a computer system, the method comprising:

3                storing a first floppy image having a first set of operating system drivers operable with a  
4        first operating system, the first floppy image stored in a read only memory (ROM) of the computer  
5        system;

6                storing a second floppy image having a second set of operating system drivers operable  
7        with a second operating system, the second floppy image stored in the ROM; and

8                providing one of the first and second floppy images as a virtual floppy drive during the  
9        operating system installation.

1        28.      The method of providing operating system drivers as defined in claim 27 further  
2        comprising:

3                selecting on a basic input output system (BIOS) setup screen one of the first and second  
4        sets of operating systems, a selected system, to be installed on the computer system; and

5 having only the floppy image having operating system drivers operable with selected  
6 system, a selected floppy image, available on the virtual floppy drive.

1 29. The method of providing operating system drivers as defined in claim 28 wherein  
2 providing one of the first and second floppy images as a virtual floppy drive during the operating  
3 system installation further comprising:

4 requesting disk services to a disk drive name that does not physically reside in the  
5 computer system by;

6 invoking interrupt 13h BIOS services directed to the disk drive name that does not  
7 physically reside in the computer system; and

8 returning file names in the selected floppy image by the interrupt 13h BIOS services as if  
9 the selected floppy image resided on the disk drive name that does not physically reside in the  
10 computer system.